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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/005,152	12/07/2001	Oh-Kyong Kwon	06161.0015.NPUS00	9932
22930	7590	12/27/2004	EXAMINER	
HOWREY SIMON ARNOLD & WHITE LLP ATTN: MARGARET P. DROSOS, DIRECTOR OF IP ADMIN 2941 FAIRVIEW PARK DR, BOX 7 FALLS CHURCH, VA 22042			DINH, DUC Q	
			ART UNIT	PAPER NUMBER
			2674	

DATE MAILED: 12/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/005,152	<b>Applicant(s)</b> KWON, OH-KYONG	
	<b>Examiner</b> DUC Q DINH	<b>Art Unit</b> 2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,15-22,31-32 is/are rejected.
- 7) ☒ Claim(s) 2-14,23-30,33 and 34 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

#### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/26/04 has been entered.

A Non-Final Office Action provided as follow.

#### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 15-18, 22 and 31-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Bae et al. (U. S. Patent No. 6,580,408).

In reference to claims 1 and 22, Bae discloses electroluminescent display device in Fig. 2 comprising: an organic electroluminescent (EL) element for emitting light corresponding from a current supply Vdd; a switch T4 (corresponding to the first switch) for switching data voltage

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supplied to a data line D1 in response to a select signal supplied from a scan line G1; a first thin film transistor T2 (corresponding to the first TFT) for supplying the current to the organic EL element in response to the data voltage supplied to the gate of the first TFT (T3) via first switch (T4); a diode means TFT T3 (corresponding to the diode means TFT) having a gate coupled to the gate of the first TFT (T2); and a capacitor Cstc for maintained the data voltage supplied to the gate of the first TFT as claimed. The gate and the drain of the T3 is coupled together. In addition, Bae discloses that because both the TFTs T2 and T3 constitute the current mirror that operates in the saturation region, the driving current I that flows through the drive switch is  $I = \frac{W_3}{L_3} \cdot \frac{1}{2} \mu_n C_{ox} (V_{gs3} - V_{th3})^2$ . Namely, the current "I.sub.0" is the input for the current mirror, which includes the TFTs T3 and T2 as drive switches for driving the diode EL, and outputs the current "I," such that the current I is not affected by the level of the threshold voltage V.sub.TH of the TFTs T3 and T2.

In order for circuit to uniform the drive current the circuit must have a threshold value which would not go above or below the threshold value. Therefore, the TFT T3 inherently compensating the threshold voltage deviation of the TFT T2 to make the current uniformed. Thus, uniform current flows through all the pixels, producing uniform light emission form the diodes EL as suggested by Bea (col. 3, lines 62-65).

In reference to claims 15 and 31, because the TFT (T3) and (T2) having the gate coupled together, therefore their threshold voltage is almost identical.

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In reference to claims 16 and 32, Fig. 3 shows that the TFT T3 and T2 are parallel to the scan line and formed on the same line as claimed.

Claim 17, Bae discloses electroluminescent display device associated with a method, electroluminescent display device comprising: data driver for representing image signals to the data lines; a gate driver supplying select a signal to the scan lines (col. 4, lines 16-21). Switch T4 for switching data voltage to the data lines in response to the select signal... The TFT T2 for compensating and transmitting the supplied data voltage to reduce a threshold voltage deviation of a current driving TFT (see the rejection applied to claim 1 above).

In reference to claim 18, Bae discloses until the first gate line G1 is selected again, a storage capacitor C.sub.STO maintains the voltage at the node A to turn on the second TFT T2 to function as a driving switch for supplying the diode EL with a fixed current for emitting light. Note that the current that is flowing in the diode EL, which is connected to the second TFT T2 by the current mirror including the third and second TFTs T3 and T2, is controlled by the initial data current that is input to the third TFT T3 (col. 4, lines 44-52).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 19 – 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bae as applied to claims above, and further in view of Kane (U. S. Patent No. 6,229,508)

In reference to claims 19-21, Bae fails to disclose that the control signal is an additional external reset signal. Kane discloses an auto zero line (previous scan line 382) corresponding to the external reset signal as the control signal to initial the data voltage supplied to the gate line of the TFT. It should be noted that Autozero line 382 from a previous row can be implemented as a second Select line. Namely, the timing of the present pixel is such that the Autozero line 382 from a previous row can be exploited without the need of a second Select line, thereby reducing complexity and cost of the present pixel (col. 3, lines 45-62).

It would have been obvious for one of ordinary skill in the art at the time of the invention was made to provide the teaching of Kane, i.e.: provide the external auto zero line from previous row to initialize the data voltage to the gate of the TFT for reducing complexity and cost of the pixel.

#### ***Response to Arguments***

6. Applicant's arguments, see pages 9-13 of the Amendment, filed 10/26/04 has been considered. With respect to the Rejection Under 112 First Paragraph, the applicant amended and removed the language which was the basis of the rejection, the 112 Rejection is withdrawn. Which respect to the 102 and 103 rejection, see the new cited Rejection as elaborated as above. The rejection is maintained.

#### ***Allowable Subject Matter***

7. Claims 2-14, 23-30 and 33-34 objected to as indicated in the previous Office Action.

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***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **DUC Q DINH** whose telephone number is **(703) 306-5412**. The examiner can normally be reached on Mon-Fri from 8:00.AM-4:00.PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **RICHARD A HJERPE** can be reached on **(703) 305-4709**.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**Or faxed to:**

**(703) 872-9306 (for Technology Center 2600 only)**

Hand-delivery response should be brought to: Crystal Park II, 2121 Crystal Drive,  
Arlington, Va Sixth Floor (Receptionist)

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 305-4700.

DUC Q DINH  
Examiner  
Art Unit 2674  
DQD  
December 23, 2004

  
**REGINA LIANG**  
**PRIMARY EXAMINER**